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PATENT SPECIFICATION

DRAWINGS ATTACHED

971552

971552



Inventor: PETER STRACHAN WATSON

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International Classification:—A 61 b (B 65 b, d)

COMPLETE SPECIFICATION

Improvements in and relating to Plaster of Paris Bandages, Containers and Dispensers therefor

We, T. J. SMITH & NEPHEW LIMITED, a British Company, of Neptune Street, Hull, Yorkshire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

This invention relates to plaster of paris bandages, containers and dispensers therefor, and has for its object to provide Plaster Slabs (made up from a plurality of plaster of paris bandage plies or layers) in continuous lengths up to a maximum, each such length being arranged in a compact pile in a special manner, and individual containers for such compact piles, so arranged that any desired length may readily be withdrawn from the container and cut off for use.

According to the present invention, a continuous length of such a plaster of paris slab having a desired make-up, and a dispensing container therefor, comprises a plurality of plaster of paris bandage plies or layers, having any usual standard width for a slab and a relatively great length, the compacting being effected simply by laying the lengthy slab in a zig-zag manner in "lays" of the same desired length one above the other without any compression action, which as a consequence leaves approximately hollow semi-cylindrical portions between the successive lays, to form an uncomressed pile which is of generally rectangular prismatic shape, in combination with a dispensing container of hollow generally rectangular prismatic shape to receive the pile with desired clearance, and having a coverable opening, slightly wider than the width of the slab, adjacent the uppermost lay of the compact pile, so that the end of the slab on the upper surface of the pile can be pulled through the opening, when uncovered, to allow any length of the slab to be pulled out and held ready for cutting off.

[Price 4s. 6d.]

In an example, the plaster of paris slab may have six plies and a length of approximately sixty feet and a width of, say, four, six or eight inches. Further, the separate "lays" of the pile may be approximately eleven inches in length. With these dimensions, the pile will have a base of four, six or eight inches by eleven inches, and a height approximately nine inches.

The dispensing container may be of any suitable material, for example cardboard, ply- or other wood, sheet metal, plastic, or any desired combination of these materials, having a rectangular prismatic shape to receive the pile, with desired clearance.

For this purpose it has a removable or hinged lid, and when the compact pile is in position in the container the lid, in addition to being in the closed position, may, if the construction permits, be sealed in position in an air- and water-tight manner.

In addition to the above, the container, in the unsealed condition, has an opening, coverable by a hinged portion of the lid or container, slightly wider than the width of the slab, which opening preferably is at the top of one of the sides of the container and is adjacent the uppermost lay of the compact pile, so that the end of the slab on the upper surface of the said pile, can be pulled through the opening, when uncovered, to allow any length of the slab to be pulled out and held ready for cutting off.

According to a further feature of the invention, the compact pile of plaster of paris slab is located in a flexible waterproof bag, preferably of thin plastic sheet or film such as polyethylene, before or when it is located in the container; this bag is closed by suitably folding the open end, although this end may be sealed.

The bag preferably has such dimensions that the covered opening in the container allows access to be obtained to the upper portion of

Price 2s.

- the bag to open it when required in order to obtain access to the upper lay of the compact pile, to lead this to the said opening and out from the container.
- 5 Further, the bag preferably has such fullness that after it has been opened and a length or lengths of the slab dispensed, said bag, with the remainder of the pile of slab therein, can be folded and doubled up to form an effective closure against moisture obtaining access to the interior thereof, to the detriment of the pile of slab.
- 10 In order that the invention may be better understood, it will now be described with reference to the accompanying diagrammatic drawings which are given by way of example only and in which:—
- 15 Fig. 1 is a side elevation of one end portion of a long slab of plaster of paris, made up from a plurality of superposed plaster of paris bandage plies.
- 20 Fig. 2 is a plan of Fig. 1.
- 25 Fig. 3 shows to a smaller scale a perspective diagram of a long slab of plaster of paris with a plurality of similar zig-zag folds, for making up into a compact pile in accordance with the invention.
- 30 Fig. 4 shows the zig-zag formation, to the scale of Figs. 1 and 2, only the ends of the lays being somewhat diagrammatically shown and the intermediate portions omitted.
- 35 Fig. 5 shows a similar view to Fig. 3, of the compact pile, which is as laid and uncompressed, as illustrated in Fig. 4.
- 40 Fig. 6 shows a diagrammatic perspective view of the piled slab as shown in Fig. 5 inserted into a bag of plastic sheet, preferably polyethylene, the bag having one closed end and the other end open.
- 45 Fig. 7 shows a perspective diagram of a cardboard container and lid therefor in the unassembled condition, made in accordance with an embodiment of the invention, to receive the compact pile of plaster of paris slab according to the invention.
- 50 Fig. 8 is a similar view to Fig. 7 but with the lid sealed in the closing position on the container, the compact pile of plaster of paris being enclosed in the container.
- 55 Fig. 9 shows a similar view to Fig. 8, but with the seal broken, part of the lid in the raised position to uncover an opening in the container, with the upper part of the polyethylene bag withdrawn from the container and opened, for the removal of a desired length of the plaster of paris slab from the pile.
- 60 Fig. 10 is a perspective view of another container in accordance with the invention, formed as a collapsible carton with a tuck-in lid, the view showing the lid in the fully opened position.
- Fig. 11 is a similar view to Fig. 10, but with the lid fully closed, and
- Fig. 12 is another similar view to Figs. 10
- and 11 but with a portion of the lid closed and another portion open.
- In the example shown in Figs. 1 and 2, the plaster of paris slab 15 is a six-ply slab which is just over one-eighth of an inch thick and, say, three inches wide, although it could be of other width. Fig. 3 represents, say, sixty feet of such slab, which has lays of approximately eleven inches long, with somewhat hollow semi-cylindrical bent-round portions 16 between the lays; these latter are not compressed in the laying. In addition it should be pointed out that from end to end of the lay it would not remain straight as shown for the sake of convenience in Fig. 4, but would sag downwardly.
- The complete pile of Fig. 5 represented by the dotted rectangular prism 17, is placed in a polyethylene bag 18 which, as shown, is made from a flattened extruded cylinder of such material with one end 19 closed by heat sealing, and the other end 20 open. It should be pointed out that the bag 18 has a length much in excess of that of the pile 17, for example it may be over twice the length, to leave a free portion for folding over as desired to close the end 20 but leaving it free to be opened when required.
- In the particular formation of the container in accordance with the invention as shown in Figs. 7, 8 and 9 of the drawings, it is formed from cardboard with a hard surface. The container proper 21 has an open top 22 shaped as an elongated rectangle on which is fitted a lid 23 of similar shape with deep downwardly extending flanges. The two side flanges 24, which come on the more or less square faces of the container, at about one-third of their length from one end are split or discontinued at 25 from the top of the lid throughout the said flanges, and the top portion of the lid in this position is scored or shaped at 26 to constitute a hinge.
- This allows for the longer rear part of the lid 27 to have its flanges at the side and base sealed by suitable strips 28 to the body of the container 21 whilst the shorter front part 29 of the lid is adapted to be turned up as shown dotted in Fig. 7, although normally, when the container and its contents are in store, this part 29 of the lid is held down by a sealing strip 30 (Fig. 8). This front part 29 of the lid and splits 25 in the two side flanges of the lid in some cases may be sealed to prevent the ingress of moisture to the interior of the container, until it is required to use the plaster of paris slab, when such additional seal is broken.
- When the sealing strip 30 is removed, the smaller portion 29 forms a covering and can be turned up about the scored top 26 to uncover an opening in the top of the container, and the fullness at the openable upper portion of the polyethylene bag 18 in which the compact

pile of slab is enclosed is rendered accessible through this opening.

- 5 In addition, if required, the narrow side 31 of the container 21, which is adjacent this opening, can, as shown, have its upper portion 32, for about an inch, capable of being turned down about a scoring 33, to facilitate the withdrawal of the plaster of paris slab from the opening in the top of the container.
- 10 If required, to compensate for the slight sagging at the centre of the lays of the material as they progress from the bottom upwardly, in some cases the lower part of the casing may have a fillet member therein of a convex nature which will cause the lowermost lay to have a convex formation and the lays above it to be progressively less convex, so that the uppermost is more or less flat.

In operation, when the smaller portion 29 of the lid is turned up, that is, when the opening in the top of the container is uncovered, then, as shown in Fig. 9, the upper portion of the bag 18 is withdrawn through the opening thus made, and the upper end of the bag is opened out. This allows the entry of the hand of an operator into the bag to take up the uppermost layer of the slab 15 and withdraw it from the bag. Any desired length or lengths of the slab 15 can now be dispensed according to the particular cast which is being built up. After all the lengths required have been cut off, the end of the slab is tucked well into the open end of the bag, and the bag is then folded longitudinally and transversely, effectively to close the interior of the bag from the exterior, and the thus-folded fullness of the bag is packed down into the container. The small flap 32 at the upper end of the narrower side 31 of the container is now turned up and the smaller hinged end 29 of the lid, constituting the cover for the top opening, is turned down.

The remainder of the slab within the container is thus fully protected and yet ready for immediate use when required.

The form of the dispensing container according to the embodiment of the invention shown in Figs. 10, 11 and 12 is a collapsible carton with a tuck-in lid made from suitable material, for example white lined folding box board, and is an expendable unit. When erected it comprises a hollow container 34 of rectangular prismatic form, the integral top 35 of which at one side is hinged at 36 to one wall 37 to constitute a hinged lid, and at the other side has a long tuck-in flap 38 to be located against the inner surface of the opposite wall 39 (Fig. 10). When thus closed, the whole of the integral top 35 can be held sealed in position by a sealing strip 40 (Figs. 11 and 12) partly adhered to the top 35 and partly (not shown) to the exterior of such wall 39. The top 35 has a scored dividing crease 41 from side to side, and integral flaps 42 and 43 are provided

at the top of each of the end walls to give rigidity, 43 being wider than 42.

The polythene bag and compact slab are not shown in Figs. 10 to 12 but it should be understood that with the hollow container 34 in the condition shown in Fig. 10, but with the flaps 42 and 43 turned up, the container will readily receive the said bag and its contents with the end of the upper lay of the slab adjacent the flap 42.

The container is then closed and sealed as shown in Fig. 11. An adhesive end label 44 is applied and this is continued, as shown, over the top edge and on to the lid. Another adhesive label 45 is also applied to the top of the lid, which can have "Directions for Use" printed thereon.

When it is desired to open the closed and sealed container, it is slit along the lines *ab*, *bc*, *cd*, Fig. 11, to form a lid or cover 46 which can be turned about the crease 41, as shown in Fig. 12, to disclose the opening 47 at the top, for access to the polythene bag and slab and for the withdrawal of desired lengths of the latter. To facilitate the slitting along the lines *ab* and *cd*, the material in these positions may have lines of interrupted cuts.

For additional security against moisture, in some cases the compact pile of slab may be enclosed in two separate waterproof bags of the same or different thicknesses and the same or different materials. Further, if required, the exterior of the container and its lid or the like may be covered in by a film of plastic or other material for the exclusion of moisture.

WHAT WE CLAIM IS:—

1. A compact pile of plaster of paris "slab" made up from a plurality of plaster of paris bandage plies or layers, having any usual standard width for a slab and a relatively great length, the compacting being effected simply by laying the lengthy slab in a zig-zag manner in "lays" of the same desired length one above the other without any compression action, which as a consequence leaves approximately hollow semi-cylindrical portions between the successive lays, to form an uncomressed pile which is of generally rectangular prismatic shape in combination with a dispensing container of hollow generally rectangular prismatic shape to receive the pile with desired clearance, and having a coverable opening, slightly wider than the width of the slab, adjacent the uppermost lay of the compact pile, so that the end of the slab on the upper surface of the pile can be pulled through the opening, when uncovered, to allow any length of the slab to be pulled out and held ready for cutting off.
2. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in claim 1, in which the container has a lid for closing the whole of the open end after the compact slab is disposed in the con-

- 5 tainer, and in which a portion of the said lid is formed to be hinged to constitute a cover for the opening in the container allowing for the withdrawal of the length of slab from the container when said cover is in the open position.
- 10 3. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in claim 2, in which the compact pile of plaster of paris slab is located in a flexible waterproof bag formed from a thin sheet or film of polyethylene or other plastic, before or when it is located in the container, the open end of which bag is closed by folding or sealing.
- 15 4. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in claim 3, in which the bag has such length that its open end can be extended well beyond the upper end of the said pile, so that this open end, in a folded condition, can be located adjacent the opening in the container, to permit the open end to be unfolded and partly withdrawn from the container to enable access to be obtained to the uppermost lay of the slab, for the withdrawal of the required length or lengths of the slab for use.
- 20 5. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 2 to 4, in which to compensate for the slight sagging at the centre of the lays of the slab as they progress from the bottom upwardly, the lower part of the container has a fillet member therein with a convex upper surface, to cause the lowermost lay to have a convex formation and the lays above it to be progressively such that the uppermost is more or less flat.
- 25 6. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 2 to 5, in which a portion of the upper edge of one of the sides of the container is made to turn down when the parts are in the open position, to facilitate the ready withdrawal action of the slab from the opening in the container.
- 30 7. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 2 to 6, in which the lid is detachable from the body and formed with downwardly depending flanges,
- 35 8. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 2 to 6, in which the top of the lid between the upper ends of these cuts being scored or creased, for the purposes set forth.
- 40 9. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 3 to 8, in which the compact pile of slab is enclosed in two separate waterproof bags of the same or different thicknesses and the same or different materials, one bag coming over the other bag, and the open ends of which bags may be closed by folding or sealing.
- 45 10. A compact pile of plaster of paris slab combined with a dispensing container, as claimed in any one of the claims 2 to 9, in which the exterior of the container with the compacted slab therein, in the closed condition is covered-in by a moisture-excluding film of plastic or other material.
- 50 11. A compact pile of plaster of paris slab combined with a container therefor, as herein described and shown with reference to Figs. 1 to 9 of the accompanying drawings.
12. A compact pile of plaster of paris slab combined with a container therefor, as herein described and shown with reference to Figs. 1 to 6 and 10 to 12 of the accompanying drawings.

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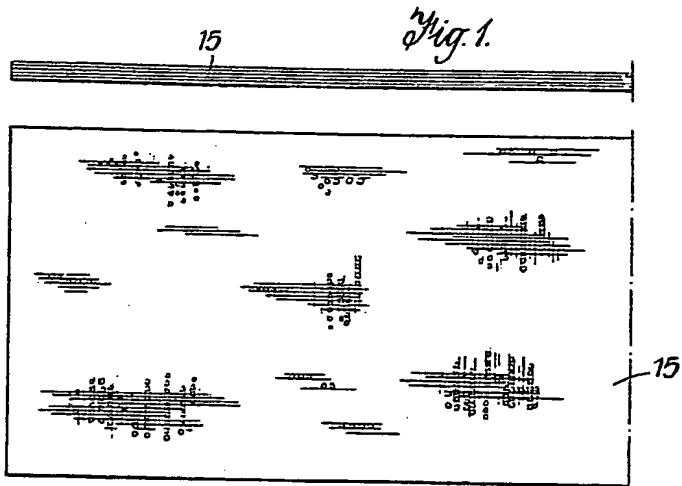


Fig. 1.

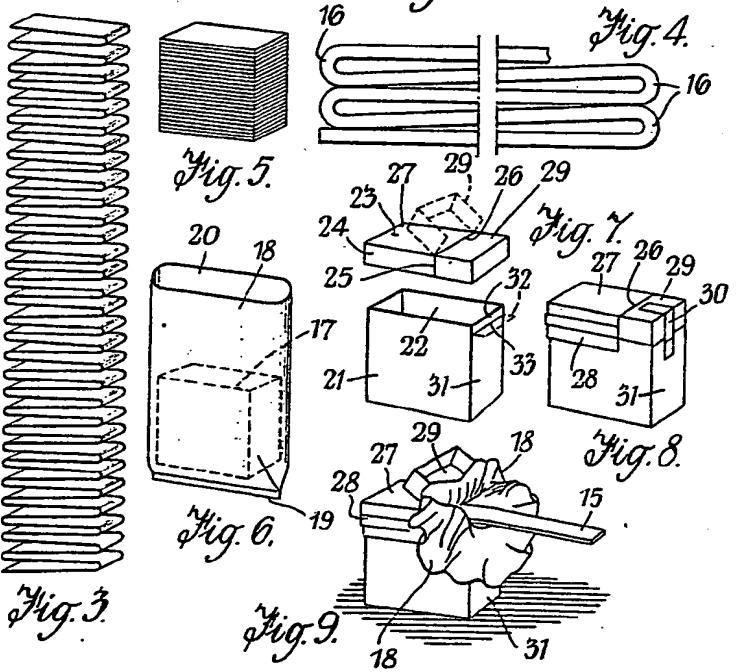


Fig. 2.

Fig. 4.

Fig. 3.

Fig. 9.

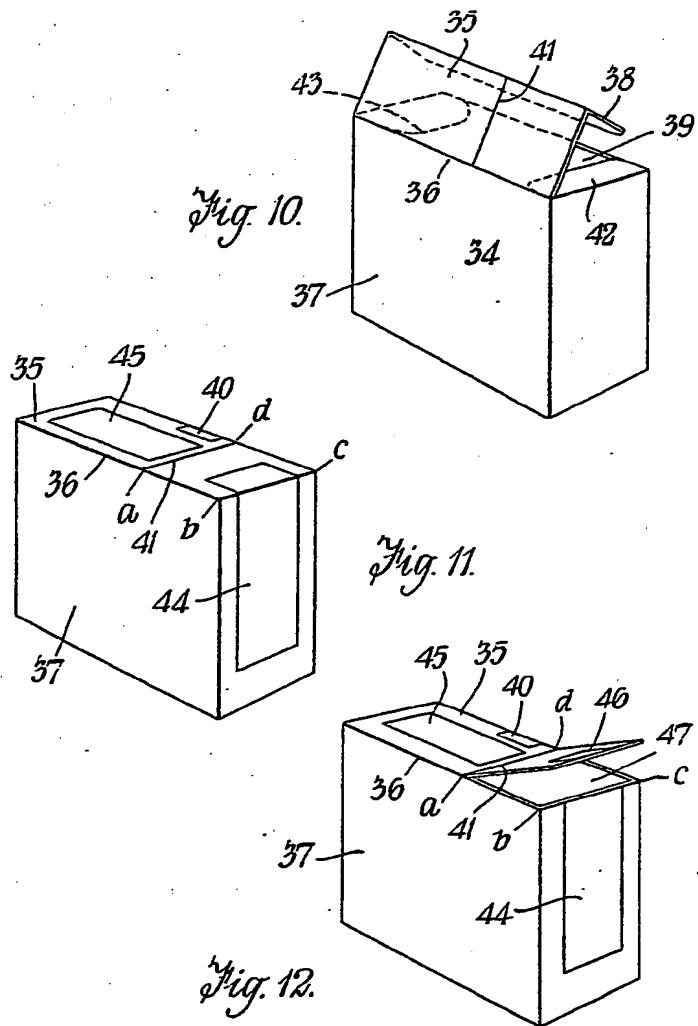
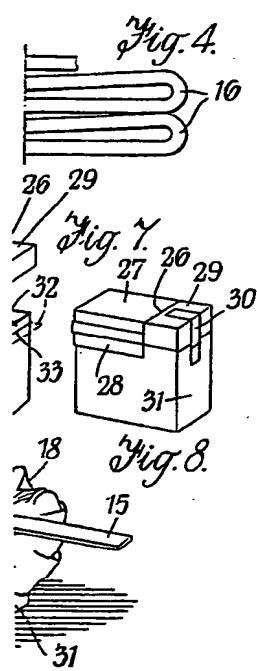
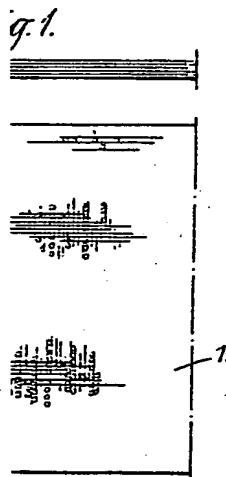
Fig. 8.

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